

**Claims:**

1. A homogeneous, transparent microemulsion which comprises polyethylene glycol and:
  - a) 1 to 70% by weight, preferably 10 to 50% by weight, of a water-insoluble liquid;
  - b) 1 to 98% by weight, preferably 20 to 80% by weight, of a polyethylene glycol;
  - c) 0 to 97% by weight, preferably 0 to 60% by weight, of water; and
  - d) 1 to 20% by weight, preferably 2 to 15% by weight, of a surfactant with the chemical formula:



in which R is an alkyl or alkenyl radical having 8 to 22 carbon atoms, preferably having 12 to 18 carbon atoms, or is an alkylphenol or polyalkylphenol radical having 4 to 16 alkyl carbon atoms, in which R' is H or CH<sub>3</sub> or a mixture thereof, preferably H, and in which n is an integer in the range from 2 to 20,  
where all of the data in % by weight are based on the total weight of the microemulsion.

2. The microemulsion as claimed in claim 1, wherein the weight ratio of polyethylene glycol:water is in the range from 99:1 to 30:70.
3. The microemulsion as claimed in claim 1 or 2, characterized in that the water-insoluble liquid is less than 50% by volume of the microemulsion and the volume ratio of water-insoluble liquid to surfactant is at least 2.0.
4. The microemulsion as claimed in one or more of claims 1 to 3, wherein the polyethylene glycol has a molar mass in the range from 150 to 35 000 g/mol, preferably from 200 to 800 g/mol.

5. The microemulsion as claimed in one or more of claims 1 to 4, which comprises, as component a), the water-insoluble liquid, oils, hydrocarbons, preferably mineral oil or polydecenes, triglycerides, preferably natural oils and/or esters, preferably stearates, palmitates and myristates.
6. The microemulsion as claimed in one or more of claims 1 to 5, which comprises, as component d) a surfactant chosen from nonionic, cationic, anionic and amphoteric surfactants.
7. The microemulsion as claimed in claim 6, which comprises, as nonionic surfactant, dimethylamine oxides, ethoxylated castor oils, poloxamers, alkyl polyglucosides, fatty acid sorbitol esters, fatty acid polyglycerol esters, ethoxylated fatty acid polyglycerol esters, fatty amine ethoxylates, fatty acid monoethanolamide ethoxylates, glycerol mono- and diesters of fatty acids and/or phosphoric triesters.
8. The microemulsion as claimed in claim 6, which comprises, as anionic surfactant, phosphoric monoesters, phosphoric diesters, alkyl sulfates, alkylbenzenesulfonates, alkanesulfonates, alkylpolyglycol ether sulfates, preferably sodium laureth sulfate, alkylamidopolyglycol ether sulfates, alkylpolyglycol ether carboxylates, alkylpolyglycol ether sulfosuccinates and/or fatty acid isethionates.
9. The microemulsion as claimed in claim 6, which comprises, as amphoteric surfactant, acyl glutamate, alkylamidopropylbetaines, preferably cocoamidopropylbetaine, fatty acid methyl taurides, fatty acid sarcosides and/or amphoacetates.
10. The microemulsion as claimed in one or more of claims 1 to 9, wherein component a) is solubilized in the microemulsion with a degree of solubilization S greater than or equal to 0.8, preferably greater than or equal to 1.5.

11. The microemulsion as claimed in one or more of claims 1 to 10, which additionally comprises an electrolyte.
12. The microemulsion as claimed in one or more of claims 1 to 11, which additionally comprises polar organic compounds, preferably hydroxy compounds and/or polyhydroxy compounds, particularly preferably glycerol, propylene glycol, ethanol and/or isopropanol.
13. The use of a microemulsion as claimed in one or more of claims 1 to 12 for cosmetic formulations.
14. The use of a microemulsion as claimed in one or more of claims 1 to 12 for cleaning compositions.